1. Treat the phimosis by a dorsal slit, thus aiding in the application of remedies and favoring aërobic conditions.
2. Irrigate the sac every few hours with peroxide of hydrogen solution.
3. Apply arsphenamin or neoarsphenamin daily to the ulcers in powdered form.

The following case, recently seen by me in consultation with Dr. George Fahr, illustrates a typical example except that the ulcers were confined to the prepuce.

CASE HISTORY.—A. B., a white male, aged twenty-six years, a University student, presented himself at the University clinic giving the history that eight days previously he had intercourse with a prostitute. Six days later he noticed itching and burning in the preputial sac, which was followed next day by a copious yellowish-white discharge of pus and much tenderness and swelling of the penis. There was no pain on urination. On examination the penis was red, tender and swollen and had a palpable dorsal lymph cord. There was a foul-smelling discharge of pus which on microscopic examination revealed the typical spirochetes and fusiform bacilli of this disease. Phimosis was present. Pain on manipulation of the part was severe. On clearing away the pus small ulcers were visible on the preputial meatus and the internal aspect of the prepuce. The glans was red but not ulcerated. The inguinal nodes were palpable, indurated and slightly tender.

The ulcers gradually deepened, new ones formed and some coalesced. Under a plan of treatment somewhat similar to that advocated in the body of this article there was complete recovery in less than three weeks. Unnatural intercourse was denied in this case.

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## AMNESIA AFTER CHILDBIRTH.

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IN the first case, childbirth was the exciting cause of dementia with amnesia, in a woman strongly predisposed to insanity. The second illustrates a similar amnesia, resulting from an incidental complicating encephalitis occurring during pregnancy, in a woman free from pathological predisposition. In all other regards (the personality of the patients, their inheritances, the exciting cause of illness, and the accompanying symptoms) the two cases are unlike.

CASE I.—The patient's father was a man of unusual mental brilliancy, who, starting life with only a grammar-school education

and entirely without social influence, became not only wealthy, but, and this is more important, in judging mentality, a person whose opinions carried weight and who was respected in his community. He began when about thirty years old to drink heavily, not socially but secretly. In his earlier life he did not crave alcohol and drank rarely and moderately, yet he died a confirmed alcoholic, in his forty-fifth year, from cardio-vascular-renal disease. He was therefore not an accidental drunkard, made such by environment, but a man with congenitally tainted protoplasm, protoplasm having a pathologic affinity for alcohol. The patient's mother was very neurotic, given to outbursts of anger, hard to live with, unreasonable and always on the edge of insanity. She died at the age of thirty from some acute infection. She had several phantom pregnancies and three children, the first of whom died at birth, the second is a selfish, frivolous and not very intelligent young woman, and the third the subject of this report.

The patient was always "peculiar," but fond of music and outdoor life. She reached the second grade of a country high school at fifteen years, and then, being self-willed and under little control, informed her people she would not go to school any longer; she did not. As a child she never slept alone because of terrifying dreams, was bad-tempered, difficult, indeed impossible to train in self-control, but never physically ill. Menstruation began at fifteen years. (Probably mental unbalance, so frequent at puberty, was the real cause of her stopping school.) During adolescence she formed several transitory but violent attachments to boys, and by the time she was eighteen her sexual tendencies caused the wiser of the young men of her social circle, who were looking for wives, to avoid her. She married at twenty-two a foolish and infatuated youth, by whom she has had three children (all still living) in four years. Even before her attack of definite mental illness she was, though not a nymphomaniac, pathologically strongly sexed, entirely selfish, somewhat lacking in moral sense and with little intelligence.

In May, 1919, four weeks after the birth of her last child, who is claimed to be in good physical health, she suddenly became delusional, violent, suspicious of her husband, believed Christ was about to come again, masturbated frequently and slept but little. Six weeks after the onset of her illness, being left alone for a few minutes, she ran away and a few hours later was picked up in the street by the police, confused, erotic and exhibiting herself. She was taken to a hospital in a state of "acute mania," which lasted some days, after which she grew quieter but developed the delusion that she was the mother of Christ and at the same time stated she was going to marry a childhood friend whom she had not seen or heard of for years. (It is noteworthy that she had never received any religious training and never passed through any of the religious experiences common to adolescents, though in her father's family her forebears

had been strictly orthodox in belief and conduct.) Her husband, whom she still recognized, she accused of infidelity and would have nothing to do with. She was talkative, playful, impulsive, noisy, shameless, dirty and destructive. Very early in her illness she began to have recurring transitory visual and auditory hallucinations concerning religious and sexual matters, and throughout its course she wrote long, incoherent, obscene, profane and erotic letters. She gradually became quieter and after some months ate and slept well, was clean in her person, and, for the most part, quiet in her talk, though the erotic element still existed, because whenever she got even a glimpse of a man, no matter what his age, appearance, dress or race, she would call out to him and behave shamelessly. She masturbated much less frequently. Most of the time, except during the first months of her illness, she was emotionally apathetic, the sexual excitement being episodic, though even to the end she had occasional outbursts of apparently causeless anger.

The most interesting symptom was loss of memory or rather power of recollection. This loss especially concerned persons. She did not recognize her husband, treated him as she did all other men, but had no realization that she had ever seen him before. A relative who had taken care of her from infancy she did not recognize. Even seeing her children caused no emotional response and failed to awaken remembrance of them. For months she did not know where she was, and, though told repeatedly, always forgot in a few minutes. She retained ability to read and write throughout her illness, remembered the name of her home town, the place where she had lived as a girl and the memory loss involved not only events which had happened since her pregnancy; most of the incidents of her whole previous life were blotted out. For a long time also she had no idea of the passage of time; this really was the result of the memory loss; having no remembrance of what happened and was happening, she had no measure of time. During part of her illness she paid no attention to events happening around her: sometimes she was too maniacal, at others too apathetic, to do so. This period has remained a blank in her life. It really was not a memory loss, for memory is the permanent impress of stimuli upon the nerve cells and her nerve cells, for a reason unknown to us, refused to receive impressions. Mere lack of attention does not explain it because, as is well known, things we pay no attention to at the time may make their impress and be recollected long after.

For many months she responded normally only to the primitive instincts of hunger and sex, the latter being greatly exaggerated. When she had recovered enough to answer with verbal correctness when asked if she were married, she did not really understand what marriage connoted and did not think it strange she never saw her husband. She did not recognize him on the rare occasions when he was allowed to call on her and was not depressed by her separation

from her children. She never spoke of them. During this period she had no intellectual life, never carried on a train of thought save when asked a question, was purely a creature of impulse, without power of inhibition, and had no continuing self-consciousness. She lived from moment to moment, without remembrance of the past or thought of the future. While she was under my care she showed no physical signs of disease except a pathologic growth of hair; some previously fine hairs on the chin and upper lip became coarse and marked. A few very coarse hairs also appeared on the cheeks in front of the ears. She presented no other visible evidence of endocrine gland dysfunction.

Convalescence was slow and the first real sign of improvement was the cessation of sexual excitement. (Though the religious delusions had passed away sometime before, they had been followed by so many other symptoms that their fading out was no indication of returning health.) Next she began to realize her loss of memory, at first without any emotional reaction, but later comprehending that she must be ill and worrying, though only slightly, about it. Power of recollection was one of the last functions to return, but the last of all, and it never has really returned, was affection for her husband and children. She even today has no affection, but merely animal feeling. After she recovered enough to understand intellectually what the words marriage and motherhood meant, she was still without the slightest affection for either husband or children. This lack of feeling toward her husband was not caused by her delusion of his infidelity (it had passed out of her mind long before) and persisted for many weeks after the entire period of her acute illness had become a blank in her life. Now, about thirteen months after the onset of her illness, she is able to live at home and to take nominal, not actual, charge of the house. Though to the careless observer she would seem to be a normal woman of a rather low mental type, she is, as a matter of fact, somewhat demented, as is shown by her indifference to her husband and children and her childish outlook on life. A large part of the time of her illness is a blank to her, though the power of recollecting events in her earlier life and incidents which occurred during her convalescence has largely returned. The amnestic period has not, however, clear-cut boundaries.

CASE II resembles the first in that amnesia was the great symptom. It is unlike in its cause (encephalitis) in the presence of a marked motor ataxia in both legs for many months, the absence of sexual symptoms, and in the patient's excellent ancestry, which gave her a protoplasm congenitally wholly normal. Her parents and grandparents, uncles and aunts were all, as I know from my personal knowledge, healthy mentally and physically. The patient's first pregnancy, which occurred in her twenty-sixth year, passed un-

eventfully; the child was normal at birth and remains so now, five years later. The second pregnancy occurred when she was twenty-eight years old; the child, a girl, was, I am told, physically healthy at birth, and so remains. During this pregnancy the mother had very severe morning vomiting, and just before the birth was seized with an illness which was diagnosed meningitis by the attending physician. She rapidly became palsied in both legs, and lost sight, speech and hearing. I suspect the alleged loss of sight was really photophobia and that the meningitis was really encephalitis (the cerebral type of infantile spinal palsy). She became delirious at the child's birth, and a week or ten days later, when the delirium cleared, recollection of past events was lost, not to be regained, even partially, for more than three years. When I saw her two years after the onset ataxia was so great in the legs she could neither stand nor walk, but there was no palsy; on the contrary, she could move the legs in bed strongly and with precision of movement. Striking the left patellar tendon caused adduction of the thigh, but no extensor movement of the leg, and striking the right caused adduction of both thighs. There was no ankle clonus and no plantar reflex. Sensibility to touch, pain and temperature was normal everywhere. There was marked general emaciation but no local trophic wasting, and no changes in the electric reactions of the muscles. Speech and swallowing were normal. The heart was normal, but the blood-pressure was only 100–70. There was a little incoördination in the left arm, but otherwise both arms were normal.

In addition to emotional indifference, and a loss of all sense of responsibility, the most marked mental symptom she presented, and her family told me it appeared immediately after the transitory delirium at the onset of her illness, was amnesia for events in her past life. She did not recognize any of her family, had no recollection of ever having been married or having born children (the second was born at the commencement of her illness), she did not know where she had lived, where she had gone to school, or what her previous life had been. On the other hand she retained her vocabulary, knew the meaning of words and talked sensibly. Her handwriting retained its former features. She remembered much of what she had learned at school, but almost none of the events of her school life, the friends she had made, and the like. She remembered how to sew. She had no delusions and her sense of sexual morality was strong, or rather it would be more accurate to say that she had no sexual feeling. Her manners were ladylike and her talk always clean. She (when under my care and for months previously) knew that there is such a thing as memory and that she had lost the faculty. At first she took this and her curious state of being the wife of a man whom she did not know with entire emotional apathy. Later it worried her greatly. She had no power of fixing anything in her memory. For example, if she started to read an article one

column long, in a paper, she would forget the first paragraph entirely before she reached the last. Things told or seen also made no impression. She conversed intelligently with me daily for months, and yet each day I was a new face, an unknown person. Later she almost suddenly regained the power of retaining and of recalling visual and auditory and indeed all stimuli. She then, of course, after once (in her new and normal state) seeing me, remembered me.

Almost three years after the onset she slowly regained ability to walk well. She has not as yet regained the power to recollect her past life save in a vague way, and one period is blotted out. Her natural feelings for her husband have returned, but whether it be a case of refalling in love or the return of an old love, who can tell? She does not remember her courtship and marriage nor the birth of her children. She recognized and remembered her mother and sister before she recalled her husband. She is now actually, not nominally, in charge of her home and has no dementia. Her judgment is good, and she behaves like a wise mother to her children.

Study of these two women reveals several interesting things. They illustrate the influence of heredity for good and evil. The first had a bad family history, was never really normal, and needed only the slightly added stress of several pregnancies in rapid succession to break entirely; the second, of good heredity, did not break from the stress of pregnancy but required a complicating infection (encephalitis) directly invading the brain, and, though amnesic, was not insane. Throughout her illness she retained what the insane, save the simple melancholiacs who are in a class by themselves, always lose, the moral sense.

Though we speak of the insanity of the puerperium there is no mental symptom or group of symptoms pathognomonic of pregnancy or childbirth, and almost every type of insanity may occur in association with childbearing. Even paresis, which is the one insanity having one cause and one only, syphilis, may have as its immediate occasion for appearing, pregnancy or more often, the act of birth. Childbirth almost always lights up a latent malaria, which sometimes is accompanied by a violent malarial delirium. Uterine sepsis also causes a delirium similar to that caused by fever from any cause. The most common true mental disease is a very acute confusional state.

Amnesia, except as a part of dementia, is rare and never occurs as an isolated symptom. Memory and recollection are not synonymous. Memory is passive—the permanent effect of a stimulus upon a cell. It is the unconscious storing of impressions in cells. Recollection is active: is the bringing anew into consciousness of the sensation, emotion or intellectual act caused by the original stimuli. Cells which have nothing to do with consciousness may be stored with memories and cells which have to do with consciousness may

also store memories which, though necessary to life, have no relation with consciousness. Again, certain memories must, at one stage of life, be recollected, be brought into consciousness, before a given act can be performed, while later all that need consciously be done is to will the act. For example a child learning to write must bring into the very center of consciousness the recollection of the muscular contractions needed to make each letter, while the ready penman is entirely unconscious of his muscular movements in writing: he simply orders the nerve-muscular apparatus to write, and it does so unconsciously. The same thing is true of walking, playing musical instruments and a thousand other acts. Probably every cell in the nervous system, if not every cell in the entire human organism, and indeed in all animal organisms, which performs any active function, is the seat of memories that though useful to life are never recollected, never come into consciousness. Muscle cells surely improve their function by practice, the result of unconscious memory. So do the cells having intellectual functions, and it is probable, certainly more than hypothetical, that all cells which secrete do the same. A few cells store no memories because they need none, having no active function, being mere bricks in the edifice, *e. g.*, those of bone, the crystalline lens and the outer layer of the epidermis.

Memory and recollection may be defective in several ways: I. Total permanent amnesia, *i. e.*, a complete and lasting loss of memory and power of recollection of all experiences. II. Partial amnesia, *i. e.*, loss of memory for a certain class of things, *e. g.*, amnestic aphasia and amnestic amusia (the loss of memory of the movements needed to be made to play a musical instrument). They are accompanied by word and music deafness. III. Amnesia covering only the events happening during a limited period of time, *e. g.*, just before an accident, before and after an epileptic fit or a period of delirium. IV. The amnesia accompanying alternating (double) personality, in which the patient at one time is one personality at another another, neither personality having knowledge or memory of the other. Though there are undoubtedly genuine cases of double personality, it is often pretended to be present by imaginative and histrionic ladies and gentlemen whose sense of fun, if not some more serious motive, leads them to hoodwink innocent and confiding gentlemen of science who, passing their lives in examining that always truthful witness, Nature, totally lack the useful scepticism of members of the defective force, and is today, since the condition is widely known, used by criminals of the higher class, who having disappeared and then been found, wish to give a good reason for their disappearance.

Total permanent amnesia, in the strict meaning of the word, never occurs save in the very last stages of dementia. The nearest approach to it is seen in paresis and senile dementia, but even in them some memories and some power of recollection are retained

until almost the last. The bed-ridden paretic, too demented to be delusional, showing no evidence of thinking, may yet prove by his behavior at eating time that he has a memory of certain favorite foods.

III is the type of amnesia most frequent after childbirth. Type I occurs in greater or less degree when a confusional state passes on to permanent dementia. II (amnestic aphasia) follows when a cerebral thrombosis involving the sensory speech centers occurs. It also may be transitory, in which case it probably is the result of local cortical poisoning.

Cases similar to those here reported are rare, but what percentage of pregnancies are followed by mental disorder remains unknown, because the published statistics are based on small series and on hospital cases only. For obvious reasons the women who go to maternity hospitals are more prone to complications than are those who are treated at home. The former, as a rule, have a poorer heredity and have had all their lives a poorer environment. Hence, hospital practice gives too high and private practice too low a percentage of mental disorders. The important element in prognosis as to future mental health in any pregnant woman, barring an accidental infection (such as Case II suffered), is her heredity.